

1. A method of analyzing data comprising the steps of:

a) creating a data flow table having an entry for each unique data flow, where each data flow entry includes fields selected from the group of fields consisting of origin IP address, destination IP address, time-to-live value, packet length, packet number, start time, stop time, origin port, destination port, protocol, any other suitable value and any combination thereof;

b) receiving a data packet that includes at least one of said fields listed in step a);

c) comparing said at least one field of said data packet to at least one user-definable set of values;

d) adding at least one error field to said data flow table that corresponds with said at least one field of said data packet identified in step c) that is outside of said at least one user-definable set of values;

e) entering in said at least one error field said at least one field of said data packet identified in step c) that is outside of said user-definable set of values;

f) entering in said data flow table said at least one field of said data packet identified in the last step that is within the at least one user-definable set of values;

g) comparing at least one corresponding entry in said data flow table to said at least one field of said data packet entered into said data flow table in the last step;

h) adding at least one anomaly field to said data flow table if said field of said data packet differs from said corresponding entry in said data flow by a user-definable value or set of values;

i) entering in said at least one anomaly field said at least one field of said data packet identified in step h) that differs from said entry of said data flow table by a user-definable value or set of values;

j) identifying data flows in said data flow table for data flows that have ended;

k) transmitting data flows, data from said at least one error field, and data from said at least one anomaly field for said data flows that have ended; and

l) returning to step b) if there are additional data packets to be processed.

2. The method of claim 1, wherein the step of adding at least one error field comprises adding at least one bitfield, said at least one bitfield containing at least one bit, said bit being set to either 1 or 0 as defined by the user.

3. The method of step 2, wherein said step of entering in said at least one error field at least one data packet comprises switching said at least one bit.

4. The method of claim 1, wherein said data flow table consist of a number of data cells arranged in rows and columns.

5. The method of claim 3, wherein said data flow table consist of a number of data cells arranged in rows and columns.

6. The method of claim 4, wherein said protocol value may be selected from the group of values consisting of e-mail protocols, web page protocols, streaming video protocols, streaming audio protocols, ftp protocols, or any other suitable protocol.

7. The method of claim 5, wherein said protocol value may be selected from the group of values consisting of e-mail protocols, web page protocols, streaming video protocols, streaming audio protocols, ftp protocols, or any other suitable protocol.

8. The method of claim 6, wherein said step of identifying data flows that have ended comprises identifying data flows in said data flow table for data flows that have ended, wherein a flow that has ended represents a completed information transfer between computers in a network according to a user-defined set of criteria, said user-defined criteria defining termination based on periods of inactivity or periods of activity, or the existence of specific flags in said at least one data packet, said flags indicating the communication between the two computers has ended.

9. The method of claim 7, wherein said step of identifying data flows that have ended comprises identifying data flows in said data flow table for data flows that have ended, wherein a flow that has ended represents a completed information transfer between computers in a network according to a user-defined set of criteria, said user-defined criteria defining termination based on periods of inactivity or periods of activity, or the existence of specific flags in said at least one data packet, said flags indicating the communication between the two computers has ended.

10. The method of claim 1, wherein said protocol value may be selected from the group of values consisting of e-mail protocols, web page protocols, streaming video protocols, streaming audio protocols, ftp protocols, or any other suitable protocol.

11. The method of claim 1, wherein said step of identifying data flows that have ended comprises identifying data flows in said data flow table for data flows that have ended, wherein a flow that has ended represents a completed information transfer between computers in a network according to a user-defined set of criteria, said user-defined criteria defining termination based on periods of inactivity or periods of activity, or the existence of specific flags in said at least one data packet, said flags indicating the communication between the two computers has ended.

12. The method of claim 1, wherein said user-definable set of values is chosen from the group of user-definable sets of values consisting of a threshold value below which said at least one field of said data packet must not fall, a threshold value above which said at least one field of said data packet must not fall, a range between which said at least one field of said data packet must fall, a list of values at least one of which said at least one field of said data packet must equal, any other suitable set of values, and any combination thereof.

13. The method of claim 8, wherein said user-definable set of values is chosen from the group of user-definable sets of values consisting of a threshold value below which said at

least one field of said data packet must not fall, a threshold value above which said at least one field of said data packet must not fall, a range between which said at least one field of said data packet must fall, a list of values at least one of which said at least one field of said data packet must equal, any other suitable set of values, and any combination thereof.

14. The method of claim 9, wherein said user-definable set of values is chosen from the group of user-definable sets of values consisting of a threshold value below which said at least one field of said data packet must not fall, a threshold value above which said at least one field of said data packet must not fall, a range between which said at least one field of said data packet must fall, a list of values at least one of which said at least one field of said data packet must equal, any other suitable set of values, and any combination thereof.

15. The method of claim 1, wherein the step of adding at least one anomaly field comprises adding at least one bitfield, said at least one bitfield containing at least one bit, said bit being set to either 1 or 0 as defined by the user.

16. The method of claim 15, wherein said step of entering in said at least one anomaly field at least one data packet comprises switching said at least one bit.

17. The method of claim 16, wherein said data flow table consist of a number of data cells arranged in rows and columns.

18. The method of claim 17, wherein said protocol value may be selected from the group of values consisting of e-mail protocols, web page protocols, streaming video protocols, streaming audio protocols, ftp protocols, or any other suitable protocol.

19. The method of claim 18, wherein said step of identifying data flows that have ended comprises identifying data flows in said data flow table for data flows that have ended, wherein a flow that has ended represents a completed information transfer between computers in a network according to a user-defined set of criteria, said user-defined criteria defining termination based on periods of inactivity or periods of activity, or the existence of specific flags in said at least one data packet, said flags indicating the communication between the two computers has ended.